CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET – MS 15
SACRAMENTO, CA 95814-5512

March 12, 2003

TO: Robert Pernell, Commissioner and Committee Presiding Member
Arthur H. Rosenfeld, Commissioner and Committee Associate Member
Garret Shean, Hearing Officer

SUBJECT: COSUMNES POWER PLANT PROJECT (01-AFC-19) - SUPPLEMENTAL TESTIMONY AND REVISED CONDITIONS OF CERTIFICATION

As a result of the Energy Commission Staff workshops on the Final Staff Assessment Part 1 (FSA Part 1) held on March 4 and 6, 2003, staff has revised its proposed conditions of certification in the following technical areas:

- Air Quality;
- General Conditions (COM-8, Construction and Operation Security Plan);
- Cultural Resources;
- Geology, Mineral Resources, and Paleontology (Paleontological Resources);
- Hazardous Materials;
- Noise and Vibration;
- Public Health;
- Traffic and Transportation;
- Visible Plumes; and
- Visual Resources.

Staff and SMUD are in agreement on all of the revised conditions of certification, except in the area of Air Quality. The remaining disagreements between staff and SMUD in the Air Quality conditions of certification are clearly identified in the attachment. The revised conditions are presented in redline/strikeout format to show the changes from Staff's FSA Part 1.

Additionally, staff notes that the revised proposed condition of certification COM-8 (part of the General Conditions analysis) is sponsored by Energy Commission staff members, Alvin Greenberg and Rick Tyler.

In addition, staff has provided additional testimony where needed to support the changes identified above and to address issues raised by other parties and members of the public.

The attached document therefore contains following three types of revisions to the FSA Part 1:

1. Changes in text and in conditions of certification (Air Quality, Cultural Resources, General Conditions, Hazardous Materials, and Visible Plumes);

2. Changes in text only (Waste Management); and

3. Changes in conditions of certification only (Geology, Mineral Resources, Paleontology; Noise and Vibration; Public Health; Traffic and Transportation; and Visual Resources).

Also included are declarations (and resumes unless already provided in the FSA Part 1) for staff that provided the additional testimony for those technical areas that have revised conditions but have not been scheduled for the scheduled March 13 and 14, 2003 Evidentiary Hearings.

Sincerely,

- signed original -

Kristy Chew
Siting Project Manager

Enclosures: Supplemental Testimony and Revised Conditions of Certification
Staff Declarations and Resumes

cc: POS

COSUMNES POWER PLANT

(01-AFC-19)

SUPPLEMENTAL TESTIMONY AND REVISED CONDITIONS OF CERTIFICATION

AIR QUALITY

Supplemental Testimony of Tuan Ngo, P.E. and Matthew Layton, P.E.

Following the release of the Final Staff Assessment (FSA) for the Cosumnes Power Plant (CPP) project, two workshops were held at which the applicant and the District provided comments on the FSA. The applicant requested staff to make changes in a number of areas. First, the applicant suggested that modifications to several of the construction-related conditions of certification (**AQ-SC1** to **AQ-SC4)** should be made, in order to provide additional flexibility. Staff agreed with many of the changes, but opposes several others. The actual language of the conditions recommended by staff and by applicant can be found following this testimony.

Second, the applicant requested that staff eliminate condition of certification **AQ-SC5**, which requires additional local mitigation for $PM_{2.5}$ impacts. After the workshop last week, staff re-evaluated the project's potential emissions and mitigation. The changes we made to our calculations are as follows: 1) we discounted potential project emissions to reflect the fact that project direct PM_{10} emissions and two sources of PM_{10} emission reductions credits consist of mostly $PM_{2.5}$ and some PM_{10}, 2) we calculated the SOx and PM_{10} offsets without the District-required discount for distance between the offset sources and the project site.

In other siting cases, staff has evaluated the sufficiency of mitigation without discounting offsets based on the location of the sources providing the emission reductions for CEQA impact mitigation addressed by District rules and regulations. (Districts frequently include discounts in their rules, and where they are required, staff includes those discounts in its evaluation of the project's compliance with district rules.) However, in the PSA and FSA, staff failed to remove the discount in evaluating the sufficiency of offsets for the project's $PM_{2.5}$ impacts. This was an error, because, as the District rules do not address $PM_{2.5}$, there is no District-required discount for evaluating the sufficiency of $PM_{2.5}$ ERCs. Revised Air Quality Tables 8 and 9 below reflect the full (i.e., without distance factors) emission reduction credits that are specified in the various emission reduction credit certificates.

As indicated in Air Quality Table 8, the available SO_x emission reductions available for the applicant for use as inter-pollutant offset for $PM_{2.5}$ would increase to approximately 64 tons per year (TPY) based on the above described changes, rather than 49 TPY as indicated in the FSA. Also as indicated in Air Quality Table 9, when considering the project's $PM_{2.5}$ emissions (approximately 95% of the project's PM_{10} emissions), the project now faces a short fall of 3,517 lbs of $PM_{2.5}$ in the fourth quarter, and a surplus of 13,567 lbs of $PM_{2.5}$ in the first quarter. As indicated in the FSA, the $PM_{2.5}$ problem normally occurs in the three months of November, December and January, i.e., two months in Quarter 4 and one month in Quarter 1. Thus, the project's $PM_{2.5}$ liability for the two months November and December is 2,345 lbs, with a surplus of 4,522 lbs in January. Therefore, the total is a surplus of 2,177 lbs of $PM_{2.5}$ for the aforementioned

three months. As such, staff no longer recommends additional mitigation for $PM_{2.5,}$ and recommends deletion of condition **AQ-SC5**.

Air Quality Table 8
Project SOx Emissions and Offsets (pounds)

	Certificate Number	Location	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Project Emissions[1]			6,054	6,121	6,188	6,188
Grace Industries	SMAQMD/ 388, 390	Sacramento	1,979	1,974	1,965	1,929
Campbell Soup	SMAQMD/ 737	Sacramento	141	112	295	151
Poppy Ridge Partners	SMAQMD/ 726, 727	Sacramento	70	94	92	72
Rancho Seco	SMAQMD/ 471, 473, 475,477, 479	Sacramento	73,301	27,938	8,390	30,285
American River Asphalt	SMAQMD/ 851	Sacramento	259	652	1,231	1,050
Total ERC			75,750	30,770	11,973	33,487
Surplus ERC[2]			69,696	24,649	5,785	27,299

Notes:

(1) Project SO_x emissions were estimated with an annual average sulfur content of 0.28 gr/100 scf natural gas.

(2) All surplus SO_x ERCs would be used to inter-pollutant offset the project particulate matter emissions.

Air Quality Table 9
Project $PM_{2.5}$ Emissions and Offsets (pounds)

	Certificate Numbers	Location	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Project Emissions[1]			37,243	37,658	38,071	38,071
Campbell Soup (ERC)	SMAQMD/ 737	Sacramento	573	336	1,858	657
Poppy Ridge (ERC)	SMAQMD/ 726, 727	Sacramento	1,027	994	740	988
Blue Diamond (ERC)	SMAQMD/ 849	Sacramento	3,480	3,320	3,433	3,207
Procter & Gamble (ERC)	SMAQMD/	Sacramento	11,269	11,269	11,269	11,269
Grace Ind. (ERC)	SMAQMD/ 833-835	Sacramento	3,590	3,590	3,575	3,514
Concrete Inc (ERC)[2]	SMAQMD/ 758	Sacramento	395	467	485	449
Rancho Seco (ERC)	SMAQMD/ 471,473,475, 477, 479	Sacramento	2,583	1,231	636	1,288
American River Asphalt[3]	SMAQMD/ 851	Sacramento	335	799	1,393	1,102
Road Paving (ERC)[4]	SMAQMD/ 768, 769, 772-776	Sacramento	2,668	3,680	5,094	3,808
Total PM ERC			25,920	25,686	28,483	26,282
Surplus SO_x ERC as PM [5]			24,890	14,499	3,403	8,272
Deficit or (surplus)			(13,567)	(2,527)	6,545	3,517

Notes: All emission reduction credits have been adjusted to remove the inclusion of the distance factor (between 1.0 to 1.5) required by the District NSR Rule 202. (SMAQMD, 2002b, App. B).

(1) Staff assumption that 95 percent of the project turbine PM_{10} emissions are $PM_{2.5}$.
(2) After application of an adjustment (of 31 percent) for $PM_{2.5}$ portion (EPA AP-42 Compilation of Air Pollutant Emission Factors- Chapter 13.2.4).
(3) After application of an adjustment (of 65 percent) for $PM_{2.5}$ portion (EPA AP-42 Compilation of Air Pollutant Emission Factors- Chapter 11.1).
(4) After application of an adjustment (of 15 percent) for $PM_{2.5}$ portion (SMAQMD, 2002b, App. B pp. 34).
(5) After applying inter-pollutant trading ratio of 2.8, 1.7, 1.7, and 3.3 SOx for PM for the first, second, third and fourth quarter, respectively.

The applicant also requested that staff revise condition of certification **AQ-23** to eliminate the ammonia slip requirement of 5 ppm. Staff has agreed to revise **AQ-23** to reflect the ammonia slip level contained in the District's Determination of Compliance (DOC). However, because we believe that this level of ammonia slip could contribute to the formation of unmitigated secondary PM_{10} and $PM_{2.5}$ impacts, we continue to recommend that ammonia slip be limited to 5ppm. In order to avoid adopting an **AQ** condition of certification that is inconsistent with the DOC (**AQ** conditions are those

identified in the DOC), we instead recommend that the limitation be included in a staff (**AQ-SC**) condition of certification – **AQ-SC7**.

Finally, the applicant stated that verification for condition of certification **AQ-34** requires more reporting than identified in the DOC and asked that it be deleted. Similar to **AQ-23**, staff agreed that it is appropriate to retain the District's language for **AQ** conditions, and instead recommends that the Committee adopt a new condition – **AQ-SC-8** – that includes the reporting requirements.

Air Quality

AQ-SC1 The project owner shall fund all expenses for an on-site air quality construction mitigation manager (AQCMM) who shall be responsible for maintaining compliance with conditions AQ-SC2 through AQ-SC4 for the entire project site and linear facilities construction. The on-site AQCMM may delegate responsibilities identified in Conditions AQ-SC1 through AQ-SC4 to one or more air quality mitigation monitors. The on-site AQCMM shall have full access to areas of construction of the project site and linear facilities, and shall have the authority to appeal to the CPM to have the CPM stop any or all construction activities as warranted by applicable construction mitigation conditions. The on-site AQCMM, and any air quality construction mitigation monitors responsible for compliance with the requirements of Condition AQ-SC4, shall have a current certification by the California Air Resources Board for Visible Emission Evaluation prior to the commencement of ground disturbance. The AQCMM may have other responsibilities in addition to those described in this condition. Employment of the on-site AQCMM shall not be terminated without written consent of the CPM.

Verification: At least ~~sixty~~ thirty (~~60~~30) days prior to the start of ground disturbance, the project owner shall submit to the CPM, for approval, the name, current ARB Visible Emission Evaluation certificate, and contact information for the on-site AQCMM and air quality construction mitigation monitors.

AQ-SC2 The project owner shall provide a construction mitigation plan, for approval, which shows the steps that will be taken, and reporting requirements, to ensure compliance with conditions AQ-SC3 and AQ-SC4.

Verification: At least ~~sixty~~ thirty (~~60~~30) days prior to starting ~~any~~ ground disturbance for construction (i.e., excluding ground disturbance related to testing activities), the project owner shall submit to the CPM, for approval, the construction mitigation plan. The CPM will notify the project owner of any necessary modifications to the plan within 30 days from the date of receipt. Otherwise, the plan shall be deemed approved.

AQ-SC3 The on-site AQCMM shall prepare, and the project owner shall submit to the CPM, in the monthly compliance report, a construction mitigation report that demonstrates compliance with the following mitigation measures:

Subparagraph (a) is still in dispute.

CEC Staff version

a) All unpaved roads and disturbed areas in the project and linear construction sites shall be watered until sufficiently wet for every four hours of construction activity. The frequency of watering can be reduced or eliminated during periods of precipitation.

Applicant version

a) All unpaved roads and disturbed areas in the project and linear construction sites shall be watered until sufficiently wet to comply with the dust mitigation objectives of AS-SC4~~every four hours of construction activity. The frequency of watering can be reduced or eliminated during periods of precipitation~~.

b) No vehicle shall exceed 10 miles per hour within the construction site.

c) The construction site entrances shall be posted with visible speed limit signs.

d) All vehicle tires shall be washed or cleaned free of dirt prior to entering paved roadways.

e) Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.

f) All entrances to the construction site or laydown area shall be graveled or treated with water or dust soil stabilization compounds. The location and composition of any dust soil stabilization compounds proposed for use must be approved, in advance, by the CPM.

g) No construction vehicles can enter the construction site unless through the treated entrance roadways.

h) Construction areas adjacent to any paved roadway shall be provided with sandbags to prevent run-off to the roadway.

i) All paved roads within the construction site shall be swept twice daily.

j) At least the first 500 feet of any public roadway exiting from the construction site shall be swept twice daily.

k) All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or be treated with appropriate dust suppressant compounds.

l) All vehicles that are used to transport solid bulk material and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.

m) ~~All~~ Wind erosion control techniques, such as wind breaks, water/chemical dust suppressants and vegetation, shall be used on all construction areas that may be disturbed~~ shall be equipped with windbreaks at the windward sides prior to any ground disturbance. The~~ Any windbreaks used to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.

Subparagraph (n) is still in dispute.

CEC Staff version

n) Any construction activities that can cause fugitive dust in excess of the visible emission limits specified in Condition **AQ-SC4** shall cease when the wind exceeds 15 miles per hour.

Applicant version

n) Any construction activities that can cause fugitive dust in excess of the visible emission limits specified in Condition **AQ-SC4** shall cease when the wind exceeds ~~15~~ 25 miles per hour.

o) All diesel-fueled engines used in the construction of the facility shall be fueled only with ultra-low sulfur diesel, which contains no more than 15 ppm sulfur.

Subparagraphs (p), (q), and (r) are still in dispute.

CEC Staff version

p) All large construction diesel engines, which have a rating of 100 hp or more, shall meet, at a minimum, the 1996 ARB or EPA certified standards for offroad equipment.

q) All large construction diesel engines, which have a rating of 100 hp or more, shall be equipped with catalyzed diesel particulate filters (soot filters), unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types.

r) All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM that shows the engine meets the conditions **AQ-SC3**(p) and **AQ-SC3**(q) above.

Applicant version

p) All ~~large~~ construction diesel engines shall comply with the following mitigation requirements, except as noted below:~~, which have a rating of 100 hp or more, shall meet, at a minimum, the 1996 ARB or EPA certified standards for offroad equipment.~~

~~q) All large construction diesel engines, which have a rating of 100 hp or more, shall be equipped with catalyzed diesel particulate filters (soot filters), unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types.~~

~~r) All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM that shows the engine meets the conditions **AQ-SC3**(p) and **AQ-SC3**(q) above.~~

Engine Size (BHP)	1996 CARB or EPA Certified Engine	Required Mitigation
< 100	NA	Ultra-low Sulfur Diesel
>= 100	Yes	Ultra-low Sulfur Diesel
>= 100	No	Ultra-low Sulfur Diesel, and Diesel Particulate Filter (DPF) if suitable as determined by the CMM

(i) If the construction equipment is intended to be on-site for ten (10) days or less, then only the use of ultra-low sulfur Diesel fuel shall be required.

(ii) The CPM may grant relief from the mitigation measures listed in this condition for a specific piece of equipment if the CMM can demonstrate that they have made a good faith effort to comply with the mitigation measures and that compliance is not possible.

(iii) The use of a DPF may be terminated immediately if one of the following conditions exists, provided that the CPM is informed within ten (10) working days of the termination:

a. The use of the DPF is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in back pressure.
b. The DPF is causing or is reasonably expected to cause significant engine damage.
c. The DPF is causing or is reasonably expected to cause a significant risk to workers or the public.
d. Any other seriously detrimental cause which has approval of the CPM prior to the termination being implemented.

Verification: In the monthly compliance report (MCR), the project owner shall provide the CPM a copy of the construction mitigation report and any diesel fuel purchased records, which clearly demonstrates compliance with condition AQ-SC3.

Condition AQ-SC4 is still in dispute

CEC Staff version

AQ-SC4 No construction activities are allowed to cause visible dust emissions at or beyond the project site fenced property boundary. No construction activities are allowed to cause visible dust plumes that exceed 20 percent opacity at any location on the construction site. No construction activities are allowed to cause any visible plume in excess of 200 feet beyond the centerline of the construction of linear facilities.

Verification: The on-site AQCMM shall conduct a visible emission evaluation at the construction site fence line, or 200 feet from the center of construction activities at the linear facilities, each time he/she sees excessive fugitive dust from the construction or linear facility site. The records of the visible emission evaluations shall be maintained at the construction site and shall be provided to the CPM in the monthly compliance reports.

Applicant version

AQ-SC4 No construction activities are allowed to cause visible dust emissions at or beyond the project site fenced property boundary. No construction activities are allowed to cause visible dust plumes that exceed 20 percent opacity at any location on the construction site. No construction activities are allowed to cause any visible dust plume in excess of ~~200~~ 300 feet beyond the centerline of the construction of linear facilities.

Verification: The on-site AQCMM shall conduct a visible emission evaluation at the construction site fence line, or ~~200~~ 300 feet from the center of construction activities at

the linear facilities, each time he/she sees excessive fugitive dust from the construction or linear facility site. The records of the visible emission evaluations shall be maintained at the construction site and shall be provided to the CPM in the monthly compliance reports.

AQ-SC5 The project owner shall submit a plan for a fireplace retrofit/woodstove replacement program to the CPM for review and approval. The plan shall provide the following elements:

a) Provisions for a replacement fund to be made available on a first-come, first-serve basis to finance a five-year voluntary woodstove replacement/fireplace retrofit program which shall provide a minimum $PM_{2.5}$ emission reductions of 5 tons for the three months November through January. The replacement fund shall pay for the retrofit/ replacement costs of at least 317 current non-EPA certified fireplaces and woodstoves (up to a maximum of $1,250 for each retrofit/replacement) with an EPA-certified solid fuel heating device. The fund shall be capable of being drawn upon in any year of the five year program and as allowed by conditions of certification until the fund is depleted.

b) A procedure whereby the CPM would establish a list of approved retailers and professional, licensed installers. Each resident participating in the retrofit/replacement program would only do business with listed retailers or installers. Payments shall only be made to vendors or contractors who agree to participate in the program and who submit certification that the retrofit/replacement is permanent (by permanent removal of the wood stove doors and proper recycling of the old stove) and conforms to program requirements.

c) Submission to the CPM of quarterly status reports on the program, the status of reimbursements, and remaining funds available.

d) A description of eligibility requirements, including that, for the first three years of the program, homes and businesses located within a 15-mile radius of the proposed facility and within Sacramento County would be eligible to participate in the program. Homes and businesses within a 25-mile radius of the CPP facility and located within Sacramento County would be eligible to participate in the fourth and fifth years if there are remaining funds.

If the program fails to achieve the necessary $PM_{2.5}$ emission reduction specified above, the project owner can:

- purchase and provide emission reduction credits, or
- initiate other programs approved by the CPM to benefit the air quality in the area, as long as the emission reductions are equivalent to 5 tons of $PM_{2.5}$ for the three months November through January.

Verification: No later than 30 days prior to commencement of construction, the project owner shall provide the CPM, for approval, a copy of the fireplace retrofit/wood stove replacement program.

Please see staff's Supplemental Air Quality Testimony (pages 1-4 above) for explanation of deletion of AC-SC5.

AQ-SC6 The project owner shall submit to the CPM for review and approval any modification proposed by ~~either~~ the project owner ~~or issuing agency~~ to any project air permit. The project owner shall submit to the CPM any modification to any permit proposed by the District or EPA, and any revised permit issued by the District or EPA, for the project.

Verification: The project owner shall submit any proposed air permit modification to the CPM within five working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.

Conditions AQ-1 to AQ-5, as presented in the FSA, are agreed upon by CEC Staff and Applicant without change.

Conditions AQ-SC7 and AQ-SC8 are new Staff proposed conditions and are not agreed upon by the Applicant.

AQ-SC7 The emissions of ammonia (ammonia slip) from each gas turbine exhaust stack following the SCR controls shall not exceed 5.0 parts per million by volume on a dry basis (ppmvd) corrected to 15 percent oxygen, on a one hour basis. This emission limitation shall apply during operations, except during transient hours. During transient hours, a limitation of 10.0 ppmvd corrected to 15 percent oxygen shall apply on a three-hour average calculated as the average of the transient hour, the clock hour immediately prior to and the clock hour immediately following the transient hour.

Verification: The project owner shall submit to the District and the CPM turbine initial source test data and annual source test data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC8**). A "transient hour" is defined in any clock hour when the difference between the maximum MW produced by the generator train and the minimum MW produced by the generator train exceeds +25 MW (a "transient hour"): 3-hour average, calculated as the average of the transient hour, the clock hour immediately prior to and the clock hour immediately following the transient hour.

AQ-SC8 The project owner shall submit to the CPM quarterly reports for the preceding calendar quarter within 30 days from the end of the quarter. The report for the fourth quarter can be an annual compliance summary for the preceding year.

Verification: The quarterly and annual compliance summary reports shall contain, at a minimum, the following information.

(a) Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NO_x emission rate, and ammonia slip.

(b) Total plant operation time (hours), number of startups, hours in cold startup, hours in warm startup, hours in hot startup, and hours in shutdown.

(c) Date and time of the beginning and end of each startup and shutdown period.

(d) Average plant operation schedule (hours per day, days per week, weeks per year).

(e) All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol.

(f) Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM_{10}, VOC, and SO_x (including calculation protocol).

(g) Fuel sulfur content (monthly laboratory analyses, monthly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by the District).

(h) A log of all excess emissions, including the information regarding malfunctions/breakdowns.

(i) A log of excess visible emissions, including the information regarding malfunctions/breakdowns.

(j) Any permanent changes made in the plant process or production, which would affect air pollutant emissions, and indicate when changes were made.

(k) Any maintenance to any air pollutant control system (recorded on an as-performed basis).

AQ-6 Severability – if any provision, clause, sentence, paragraph, section, or part of these conditions for any reason is judged to be unconstitutional or invalid, such judgement shall not affect or invalidate the remainder of these conditions.

Verification: ~~The project owner shall provide the District and the CPM quarterly and annual reports as required in condition **AQ-34**.~~ Not necessary.

Conditions AQ-7 to AQ-9, as presented in the FSA, are agreed upon by CEC Staff and Applicant without change.

AQ-10 The owner/operator of the CPP shall submit a plan to the District and the CEC CPM at least 4 weeks prior to first firing of CTG's #1 & #2 describing ~~that describes~~ the procedures to be followed during the commissioning of the gas turbines and HRSGs. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but ~~is~~ not limited to, the tuning of the dry-low-NOx combustors, the installation and operation of the SCR systems, the installation, calibration, and testing of the

NOx, CO and O2 continuous emission monitors, and any activities requiring the firing of the CTG's #1 & #2 without abatement by their respective SCR systems.

Verification: The project owner shall submit a commissioning plan to the District and CPM for review at least four weeks prior to the first firing of CTG's 1 and 2.

Conditions AQ-11 to AQ-18, as presented in the FSA, are agreed upon by CEC Staff and Applicant without change.

AQ-19 Emissions of NOx, CO, ROC, SOx, and PM10 from Phase 1 of the CPP facility including start-ups and shut-downs shall not exceed the following limits.

Pollutant	Maximum allowable emissions				
	Qtr 1 (lbs/quarter)	Qtr 2 (lbs/quarter)	Qtr 3 (lbs/quarter)	Qtr 4 (lbs/quarter)	Total (lbs/year)
NOx	62,021	62,643	63,265	63,265	251,194
CO	147,929	148,687	149,444	149,444	595,505~~504~~
ROC	14,807	14,958	15,110	15,110	59,986
SOx	5,405	5,465	5,525	5,525	21,922
PM_{10}	39,204	39,640	40,075	40,075	158,994

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

Conditions AQ-20 to AQ-22, as presented in the FSA, are agreed upon by CEC Staff and Applicant without change.

AQ-23 Each combined cycle combustion turbine shall not emit more than ~~5~~ 10 ppmvd ammonia at 15% O2, measured as NH3, averaged over any consecutive three hour period, excluding start-ups/shut-downs as defined in condition **AQ-26**.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

*Please see Staff's new proposed condition of certification **AQ-SC7** (above) which is related to **AQ-23**.*

AQ-24 The total dissolved solids content of the circulating cooling water shall not exceed 470 ppmw, averaged over any consecutive three-hour period.

Verification: The ~~project owner shall sample and test the cooling tower water at least once per day to verify compliance with this TDS limit. In addition, the~~ project owner shall include information on the date, time, and duration of any violation of this permit condition in the quarterly and annual reports.

Conditions AQ-25 to AQ-26, as presented in the FSA, are agreed upon by CEC Staff and Applicant without change.

AQ-27 The cooling towers shall not use any chromium-containing water treatment chemicals.

Verification: The project owner ~~shall sample and test the cooling tower water at least once per day to verify compliance with this TDS limit. In addition, the project owner~~ shall include information on the date, time and duration of any violation of this permit condition in the quarterly and annual reports.

Conditions AQ-28 to AQ-30, as presented in the FSA, are agreed upon by CEC Staff and Applicant without change.

AQ-31 The CPP shall operate a continuous emission monitoring system that has been approved by the Air Pollution Control Officer for each combined cycle turbine's emissions.

A. The continuous emission monitoring (CEM) system shall monitor and record nitrogen oxides, carbon monoxide, and oxygen.

B. The CEM system shall comply with the EPA performance specifications (title 40, Code of Federal Regulations, Part 60, Appendix B, Performance Specifications 2, 3, and 4).

Verification: At least sixty (60) days prior to ~~the start of ground disturbance~~purchase of the CEM system, the project owner shall submit to the District ~~and the CPM~~, for approval, and to the CPM, for review, a copy of the manufacturer specifications for the continuous emission monitoring system, which demonstrates compliance with the EPA performance specifications.

Condition AQ-32 is in dispute

CEC Staff version

AQ-32 The CPP shall operate a continuous monitoring system that has been approved by the Air Pollution Control Officer that either measures or calculates and records the following.

[No change proposed to table]

Verification: At least sixty (60) days prior to ~~the start of ground disturbance~~purchase of the continuous monitoring system, the project owner shall submit to the District and the CPM, for approval, a copy of the manufacturer specifications for the continuous monitoring system, which demonstrates compliance with the ~~EPA performance specifications~~District's monitoring requirements.

Applicant version

AQ-32 The CPP shall operate a continuous monitoring system that has been approved by the Air Pollution Control Officer that either measures or calculates and records the following.

[No change proposed to table]

Verification: At least sixty (60) days prior to ~~the start of ground disturbance~~purchase of the continuous monitoring system, the project owner shall submit to the District ~~and the CPM~~, for approval, and to the CPM, for review, a copy of the manufacturer specifications for the continuous monitoring system, which demonstrates compliance with the ~~EPA performance specifications~~District's monitoring requirements.

Condition AQ-33, as presented in the FSA, is agreed upon by CEC Staff and Applicant without change.

AQ-34 For each calendar quarter submit to the Air Pollution Control Officer a written report which contains the following. Each quarterly report is due by the 30th day following the end of the calendar quarter.

Frequency	Information to be Submitted
Whenever the continuous emissions monitoring system is inoperative except for zero and span checks.	A. Date and time of non operation of the continuous emission monitoring system B. Nature of the continuous emission monitoring system repairs or adjustments.
Whenever an emission occurs as measured by the required continuous monitoring equipment that is in excess of any emission limitation	A. Magnitude of the emission which has been determined to be in excess. B. Date and time of the commencement and completion of each period of excess emissions C. Periods of excess emissions due to start-up, shut-down, short-term excursion, and malfunction shall be specifically identified. D. The nature and cause of any malfunction (if known). E. The corrective action taken or preventive measures adopted.
If there were no excess emissions for a quarter	A report shall be submitted indicating that there were no excess emissions

Verification: The project owner shall submit to the District and CPM, quarterly reports for the proceeding calendar quarter within 30 days from the end of the quarter. The report for the fourth quarter can be an annual compliance summary for the preceding year. ~~The quarterly and annual compliance summary reports shall contain the following information.~~

~~(a) Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NOx emission rate, and ammonia slip.~~
~~(b) Total plant operation time (hours), number of startups, hours in cold startup, hours in warm startup, hours in hot startup, and hours in shutdown.~~
~~(c) Date and time of the beginning and end of each startup and shutdown period.~~
~~(d) Average plant operation schedule (hours per day, days per week, weeks per year).~~
~~(e) All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol.~~
~~(f) Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NOx, CO, PM10, VOC, and SOx (including calculation protocol).~~

~~(g) Fuel sulfur content (monthly laboratory analyses, monthly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by the District).~~
~~(h) A log of all excess emissions, including the information regarding malfunctions/breakdowns.~~
~~(i) A log of excess visible emissions, including the information regarding malfunctions/breakdowns.~~
~~(j) Any permanent changes made in the plant process or production, which would affect air pollutant emissions, and indicate when changes were made.~~
~~(k) Any maintenance to any air pollutant control system (recorded on an as-performed basis).~~In addition, this information shall be maintained on site for a minimum of five (5) years and shall be provided to the CPM or District personnel upon request.

Please see Staff's new proposed condition of certification ***AQ-SC8*** *(above) which is related to* ***AQ-34****.*

Conditions AQ-35 to AQ-36, as presented in the FSA, are agreed upon by CEC Staff and Applicant without change.

AQ-37 The project owner shall provide the District emission reduction credit certificates in sufficient quantity to show compliance with the quarterly emission limits by the use of the following calculation procedure.

[No change to equation]

Verification: At least thirty (30) working days prior to starting any ground disturbance for construction, the project owner shall provide valid emission reduction credits specified in AQ-38 to 40 to the District ~~and the CPM~~ for approval, and to the CPM for review.

AQ-38 Except as provided in condition AQ-41, the following list of emission reduction credits shall be surrendered to the APCO prior to commencement of actual on-site construction. The values in the tables below represent the value of the credit after the appropriate distance ratio has been applied.

[No change proposed to table]

Verification: Thirty (30) days prior to start any ground disturbance for construction, the project owner shall provide the necessary emission reduction credit certificates. ~~and~~ If the credits deviate from those listed in this condition, the Applicant shall include detailed calculations showing that the District's offset~~s~~ requirements are fully satisfied.

AQ-39 ROC emission reduction credits may be traded for NOx emission reduction credits at a ratio of 2.6 lb ROC for 1 lb NOx.

Verification: Thirty (30) days prior to start any ground disturbance for construction, the project owner shall provide the necessary emission reduction credit certificates. ~~and~~ If

the credits deviate from those listed in Condition AQ-38, the Applicant shall include detailed calculations showing that the District's offsets requirements are fully satisfied.

AQ-40 SOx emission reduction credits may be traded for PM10 emission reduction credits at the following ratios:

a) 2.8 lb SOx for 1 lb PM10 for Calendar Quarter 1

b) 1.7 lb SOx for 1 lb PM10 for Calendar Quarter 2 and 3

c) 3.3 lb SOx for 1 lb PM10 for Calendar Quarter 4.

Verification: Thirty (30) days prior to start any ground disturbance for construction, the project owner shall provide the necessary emission reduction credit certificates. and If the credits deviate from those listed in Condition AQ-38, the Applicant shall include detailed calculations showing that the District's offsets requirements are fully satisfied..

AQ-41 Those credits that that are being generated contemporaneous with the construction of the CPP (i.e. road paving ERC applications 00768, 00769, & 00772-00776) will only be required to be submitted prior to operation.

Verification: Not later than Thirty thirty (30) days after the issuance of the District emission reduction credit certificates, the project owner shall surrender the necessary certificates to the District, with a copy to the CPM. In the event that the reductions indicated on those certificates are lower than the values shown in Condition 38, the Applicant shall also submit and detailed calculations showing that the District's offsets requirements are fully satisfied.

AQ-42 SMUD shall pave the roadways described in SMAQMD ERC applications 00768, 00769, 00772-00776.

Verification: Thirty (30) days pPrior to issuance of the District emission reduction credit certificates, the project owner shall provide the District and the CPM the work order completion and pictures of the roadways before and after paving is performed.

AQ-43 SMUD shall ensure that the paved roads described in SMAQMD ERC applications 00768, 00769, 00772-00776 are properly maintained and repaired for the life of the Cosumnes Power Plant.

Verification: The project owner shall include pictures of the roadways after being paved for credits in the annual compliance report as required in the verification requirement for condition AQ-34.

CULTURAL RESOURCES

Supplemental Testimony of Dorothy Torres and Gary Reinoehl

In Table 1 staff recommended backhoe testing for remote sensing location 2. After additional review of the information provided by Tremaine and Associates, Tremaine recommend either testing or full-time monitoring as specified in **CUL-7**. Staff has concluded that full-time monitoring at this location will be sufficient to identify cultural resources should they be discovered.

CUL-9 has been rewritten to request the documents that would be most useful to staff in ensuring compliance with federal requirements.

Cultural Resources

CUL-1 Prior to the start of ground disturbance, the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with the name and resume of its Cultural Resources Specialist (CRS), and alternate(s), if an alternate(s) is proposed, for approval. The CRS will be responsible for implementation of all cultural resources conditions of certification. The project owner shall ensure that an alternate CRS assumes the duties of the CRS, if the CRS is temporarily unavailable due to an emergency, vacation, illness, or other temporary circumstance.

1.) The resume for the CRS and alternate(s), shall include information that demonstrates that the minimum qualifications specified in the U.S. Secretary of Interior Guidelines, as published by the CFR 36, CFR Part 61are met. The resume shall include the names and phone numbers of contacts familiar with the CRS's work on referenced projects. In addition, the CRS shall have the following qualifications:

   a. A background in anthropology, archaeology, history, architectural history, or a related field and
   b. At least three years of archaeological or historic (as appropriate) resource mitigation and field experience in California.

2.) The resume shall also demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during project ground disturbance, construction, and operation.

3.) The CRS may obtain qualified cultural resource monitors (CRM) to monitor as necessary on the project. CRMs shall meet the following qualifications:

   a. A BS or BA degree in anthropology, archaeology, historic archaeology or a related field and one year experience monitoring in California; or
   b. An AS or AA in anthropology, archaeology, historic archaeology or a related field and four years experience monitoring in California; or
   c. Enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historic archaeology, or a related field and two years of monitoring experience in California.

4.) The project owner shall ensure that the CRS completes any monitoring, mitigation and curation activities necessary to this project and fulfills all the requirements of these conditions of certification. The project owner shall also ensure that the CRS obtains additional technical specialists, or additional CRMs, if needed, for this project. The resume(s) of any

additional technical specialists shall be submitted to the CPM for approval. The project owner shall also ensure that the CRS evaluates any cultural resources that are newly discovered or that may be affected in an unanticipated manner for eligibility to the California Register of Historic Resources (CRHR). No ground disturbance shall occur prior to CPM approval of the CRS, unless specifically approved by the CPM.

Verification: At least 45 days prior to the start of ground disturbance, the project owner shall submit the name and resume of its CRS and alternate CRS, if an alternate is proposed, to the CPM for review and approval.

At least 10 days prior to a termination or release of the CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval.

At least 20 days prior to ground disturbance, the CRS shall provide a letter naming anticipated CRMs for the project and stating that the identified CRMs meet the minimum qualifications for cultural resource monitoring required by this condition. If additional CRMs are obtained during the project, the CRS shall provide additional letters to the CPM identifying the CRMs and attesting to the CRM's qualifications. The letter shall be provided one week prior to the CRM beginning on-site duties. At least 10 days prior to beginning tasks, the resume(s) of any additional technical specialists shall be provided to the CPM for review and approval.

At least 10 days, prior to the start of ground disturbance, the project owner shall confirm in writing to the CPM that the approved CRS will be available for onsite work and is prepared to implement the cultural resources conditions of certification.

CUL-2 Prior to the start of ground disturbance, the project owner shall provide the CRS and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps will include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting individual artifacts. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. The CPM in consultation with the CRS, shall ~~approve all~~ review submittals and approve those that are appropriate for use in cultural resources planning activities.

~~If the footprint of the power plant or linear facilities changes, the project owner shall provide maps and drawings reflecting these changes, to the CRS and the CPM. Maps shall identify all areas of the project where ground disturbance is anticipated.~~

If construction of the project will proceed in phases, maps and drawings shall be submitted prior to the start of each phase, if they have not previously been submitted. A letter identifying the proposed schedule of each project phase shall be provided to the CPM.

At a minimum, the CRS shall consult weekly with the project superintendent or construction field manager to confirm area(s) to be worked during the next week, until ground disturbance is completed.

The project owner shall notify the CRS and CPM of any changes to the scheduling of the construction phases. No ground disturbance shall occur prior to the CPM approval that maps and drawings are appropriate for cultural resources planning activities, unless specifically approved by the CPM.

Verification: At least 40 days prior to the start of ground disturbance, the project owner shall provide the CRS and the CPM with the maps and drawings. The CPM will review submittals and approve maps and drawing suitable for cultural resources planning activities in consultation with the CRS.

If this is to be a phased project, the project owner shall also provide to the CRS and CPM a letter identifying the proposed schedule of the ground disturbance or construction phases, and the associated dates for submittal of maps and drawings, along with the initial maps and drawings, if they have not been previously submitted.

If there are changes to the footprint for a project phase, revised maps and drawings shall be provided to the CRS and CPM at least 15 days prior to start of ground disturbance for that phase. If there are changes to the scheduling of the construction phases, the project owner shall submit a letter to the CPM within 5 days of identifying the changes.

CUL- 3 Prior to the start of ground disturbance, the project owner shall submit the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by the CRS, to the CPM for review and approval. The CRMMP shall identify general and specific measures to minimize potential impacts to sensitive cultural resources. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless specifically approved by the CPM.

The CRMMP shall include, but not be limited to, the following elements and measures:

1) A proposed general research design that includes a discussion of research questions and testable hypotheses applicable to the project area. A refined research design will be prepared for any resource where data recovery is required.

2) Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during ground disturbance, construction, and post-construction analysis phases of the project.

3) Identification of the person(s) expected to perform each of the tasks; a description of each team member's qualifications and their responsibilities; and the reporting relationships between project construction management and the mitigation and monitoring team.

4) A discussion of the inclusion of Native American observers or monitors, the procedures to be used to select them, and their role and responsibilities.

5) A discussion of all avoidance measures such as flagging or fencing, to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and/or operation, and identification of areas where these measures are to be implemented. The discussion shall address how these measures will be implemented prior to the start of construction and how long they will be needed to protect the resources from project-related effects.

6) A discussion of the requirement that all cultural resources encountered will be recorded on a Department of Parks and Recreation (DPR) form 523 and mapped (may include photos). In addition, all archaeological materials collected as a result of the archaeological investigations shall be curated in accordance with the State Historical Resources Commission's "Guidelines for the Curation of Archaeological Collections," into a retrievable storage collection in a public repository or museum. The public repository or museum must meet the standards and requirements for the curation of cultural resources set forth at Title 36 of the Federal Code of Regulations, Part 79.

7) A discussion of any requirements, specifications, and funding needed for curation of the materials to be delivered for curation and how the requirements, specifications and funding will be met. Include information indicating that the project owner will pay all curation fees and state~~and~~ that any agreements concerning curation will be retained and available for audit for the life of the project. Include discussion that: collected items shall be retained and catalogued; prior to curation the items shall be reviewed by a member of the Cultural Committee of the Ione Band of Miwok to ensure items of religious significance are not designated for curation; all other items collected as a result of this project shall be curated at California State University, Sacramento, unless the curation facility is unwilling or unable to take the collection; and if the facility is unwilling to take the collection, the project owner shall provide the names of additional curation facilities acceptable to the Ione Band of Miwok.

8) A discussion of the availability and the CRS's access to equipment and supplies necessary for site mapping, photographing, and recovering any cultural resource materials encountered during construction.

9) A discussion of the proposed Cultural Resource Report (see CUL-4) which shall be prepared according to Archaeological Resource Management Report (ARMR) Guidelines.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall provide the CRMMP to the CPM for review and approval. A letter shall be provided to the CPM indicating that the project owner will pay curation fees for any materials collected as a result of the archaeological studies. Ground disturbing activities may not commence until the CRMMP is approved, unless agreed to by the CPM.

CUL-4 The project owner shall submit the Cultural Resources Report (CRR) to the CPM for approval. The CRR shall report on all field activities including dates, times and locations, findings, samplings and analysis. All survey reports, DPR 523 forms, and additional research reports not previously submitted to the California Historic Resource Information System (CHRIS) shall be included as an appendix to the CRR. After approval, the CRR shall be provided to any curating institution the CHRIS and the State Historic Preservation Officer (SHPO).

Verification: The project owner shall submit the subject CRR within 90 days after completion of ground disturbance (including landscaping). Within 10 days after CPM approval, the project owner shall provide documentation to the CPM that copies of the CRR have been provided to the curating institution (if archaeological materials were collected), the ~~icer (~~SHPO~~)~~ and the CHRIS.

CUL-5 Worker Environmental Awareness Program (WEAP) training shall be provided, on a weekly basis, to all new employees starting prior to the beginning and for the duration of ground disturbance. The training may be presented in the form of a video. The training shall include:

1. a discussion of applicable laws and penalties under the law;
2. samples or visuals of artifacts that might be found in the project vicinity;
3. information that the CRS, alternate CRS, or CRM has the authority to halt construction in the event of a discovery or unanticipated impact to a cultural resource;
4. instruction that employees are to halt or redirect work in the vicinity of a find and to contact their supervisor and the CRS or CRM;
5. an informational brochure that identifies reporting procedures in the event of a discovery;
6. an acknowledgement form signed by each worker indicating that they have received the training; and
7. a sticker that shall be placed on hard hats indicating that environmental training has been completed.
8. The Cultural Committee of the Ione Band of Miwok shall be provided an opportunity to participate in cultural resources training sessions. If a video is filmed for cultural resources training, a spokesperson for the Ione Band of Miwok shall be afforded an opportunity to express the Ione Band's concerns in the video.

No ground disturbance shall occur prior to implementation or the WEAP training, unless specifically approved by the CPM.

Verification: The project owner shall provide in the Monthly Compliance Report (MCR) the WEAP Certification of Completion form of persons who have completed the training in the prior month and a running total of all persons who have completed training to date.

No less that two weeks prior to the beginning of training, the project owner shall provide to the CPM a copy of a letter inviting the Ione Band of Miwok to participate in cultural resources training for the CPP. The letter shall be addressed to the Cultural Committee of the Ione Band of Miwok to beginning training. Prior to the start of training, an additional letter shall be provided to the CPM that addresses whether the Band will participate and whether they will provide information in person or via a video at training sessions.

CUL-6 The project owner shall grant authority to the CRS, alternate CRS, and the CRM(s) to halt construction if previously unknown cultural resource sites or materials are encountered, or if known resources may be impacted in a previously unanticipated manner (discovery). Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

If such resources are found or impacts can be anticipated, the halting or redirection of construction shall remain in effect until all of the following have occurred:

1. the CRS has notified the project owner, and the CPM ~~has been notified~~ within 24 hours of the ~~find~~discovery or by Monday morning, if the cultural resources discovery occurs between 8:00 A.M. on Friday and 8:00 A.M. on Sunday morning, including a description of the discovery (or changes in character or attributes), and the action taken (i.e., work stoppage or redirection) and a recommendation of eligibility and recommendations for mitigation;

2 the CRS, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed;

3. any necessary data recovery and mitigation has been completed; and

4. the Cultural Committee of the Ione Band of Miwok has been notified, and in the event of a significant find (following notification and CPM concurrence with the significance of the ~~find~~ discovery), the Cultural Committee has been provided an opportunity to examine the find. The opportunity to examine the ~~find~~ discovery shall be within four hours of notification that the CPM has concurred that the ~~find~~ discovery is significant or until 5:30 PM on the date of CPM concurrence, whichever allows the most time.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate

CRS, and CRM(s) have the authority to halt construction activities in the vicinity of a cultural resource ~~find~~ discovery. The letter shall also confirm that the CRS or project owner ~~will~~shall notify the CPM ~~immediately~~within 24 hours or by ~~(no later than the following morning of the incident, or~~ Monday morning, if the cultural resources discovery occurs between 8:00 A.M. on Friday and 8:00 A.M. Sunday morning, ~~in the case of a weekend)~~ of any cultural resources discoveries whether or not a determination of significance has been made, including the circumstance and proposed mitigation measures.

CUL-7 1. The project owner shall ensure that the CRS, alternate CRS, or CRM(s) shall monitor ground disturbance full time in the vicinity of the project site, linears and laydown areas, access roads or other ancillary areas to ensure there are no impacts to undiscovered resources or known resources affected in an unanticipated manner. In the event that the CRS determines that full-time monitoring is not necessary in certain locations, a letter, e-mail, or Cultural Resources Treatment Plan providing a detailed justification for the decision to reduce the level of monitoring shall be provided to the CPM for review and approval.

2. CRM(s) shall keep a daily log of any monitoring or cultural resource activities and the CRS shall prepare a weekly summary report on the progress or status of cultural resources-related activities. The CRS may informally discuss cultural resource monitoring and mitigation activities with Energy Commission technical staff. Copies of daily monitoring logs shall be faxed or e-mailed each day to the attention of the Cultural Committee at the tribal office of the Ione Band of Miwok. Any documents that reveal site locations shall be provided under confidential cover.

3. The project owner shall ensure that the CRS notifies the project owner and the CPM within 24 hours, by telephone or e-mail, of any incidents of non-compliance with any cultural resources conditions of certification. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the conditions of certification.

   Cultural resource monitoring activities are the responsibility of the CRS. Any interference with monitoring activities, removal of a CRM from duties assigned by the CRS, or direction to a CRM to relocate monitoring activities by anyone other that the CRS shall be considered non-compliance with these conditions of certification.

4. A Native American monitor(s) shall be obtained to monitor ground disturbance in areas where archaeological monitoring is required by the conditions of certification. Only one Native American monitor shall be assigned to each construction site unless additional monitors are deemed necessary by the CRS. If a Native American monitor is not available for

scheduled ground disturbance, construction may continue under the oversight of the CRS or CRM(s).

Lists of concerned Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Consultation with the Ione Band of Miwok shall occur prior to selecting a Native American monitor(s). Preference in selecting monitors shall be given to Native Americans with traditional ties to the area that will be monitored. The Ione Band of Miwok, a federally recognized tribe, meets this requirement.

Verification: During the ground disturbance phases of the project, if the CRS wishes to reduce the level of monitoring occurring at the project, a letter, e-mail, or Cultural Resources Treatment Plan identifying the area(s) where the CRS recommends the reduction and justifying the reductions in monitoring shall be submitted to the CPM for review and approval.

During ground disturbance, the project owner shall include in the MCRs copies of the weekly summary reports prepared by the CRS regarding project-related cultural resources monitoring. Copies of daily logs shall be retained on-site and made available for audit by the CPM. The project owner shall provide a statement in the MCR that copies of cultural resources monitoring daily logs have been faxed or e-mailed to the Ione Band of Miwok tribal office. If the logs reveal site locations, they shall be provided under confidential cover.

Within 24 hours of recognition of a non-compliance issue, the CRS shall notify the CPM by telephone of the problem and of steps being taken to resolve the problem. A report that describes the issue, resolution of the issue, and the effectiveness of the resolution measures shall be provided in the next MCR.

One week prior to ground disturbance, in areas where archaeological monitoring will occur, the project owner shall send notification to the CPM identifying the person(s) retained to conduct Native American monitoring. The project owner shall also provide a plan identifying the proposed monitoring schedule and information explaining how Native Americans who wish to provide comments will be allowed to comment. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM. The CPM will either identify potential monitors or will allow ground disturbance to proceed without a Native American monitor.

CUL-8 Prior to construction-related ground disturbance or site mobilization in those areas subject to presence/absence testing, the project owner shall submit a Cultural Resources Treatment Plan ~~for approval by~~ to the CPM for approval. The project owner shall ensure that site recording, presence/absence testing and treatment of sites agreed upon in the approved Cultural Resources ~~t~~Treatment ~~p~~Plan, are completed before ground disturbance may commence in those areas. No ground disturbance shall occur prior to CPM approval of and completion of tasks identified in the Cultural Resources Treatment Plan, unless specifically approved by the CPM.

Following completion of site recording, presence/absence testing and treatment of sites required in the Cultural Resources ~~t~~Treatment ~~p~~Plan and prior to construction related ground disturbance, the project owner shall provide the results of testing or treatment as a technical report ~~(~~in Archaeological Research Management Report (ARMR) format. The report shall provide the site records and procedures, methodology, and findings of the presence/absence testing and treatment of sites ~~and site records~~ to the CPM for approval. If necessary, the technical report shall also provide a plan for avoidance, data recovery or other recovery, as appropriate. Any data recovery required by the report shall be completed and approved by the CPM.

Prior to construction-related ground disturbance or site mobilization in those areas subject to presence absence testing, the project owner shall also ensure that avoidance, data recovery or other recovery based on information obtained during presence/absence testing or treatment of sites, and deemed necessary to mitigate impacts to cultural resources by the CPM, is completed and approved by the CPM prior to construction related ground disturbance. If, avoidance, data recovery or other recovery has been conducted, a report (in ARMR format) documenting completed avoidance or data recovery shall be provided for CPM approval.

Verification: At least ~~90~~75 days prior to construction-related ground disturbance within a100 feet circumference of those areas subject to presence/absence testing, the project owner shall submit the treatment plan for CPM approval.

At least 30 days prior to ground disturbance~~,~~ within a 100 feet circumference of those areas subject to presence/absence testing, the project owner shall provide a technical report (in ARMR format) that provide procedures, methodology, and findings of the presence/absence testing completed pursuant to the treatment plan, to the CPM for approval.

Prior to ground disturbance within a 100 feet circumference of those areas subject to presence/absence testing, if avoidance or data recovery or other recovery are necessary, a report (in ARMR format) including the procedures, methodology and findings, shall be provided to the CPM for approval.

~~**CUL-9** The project owner shall ensure, that copies of correspondence with the State Historic Preservation Officer (SHPO) are provided to the CPM, as may be required by the other federal permitting agencies (i.e., Section 106 Compliance; 16 U.S.C. § 470).~~

~~**Verification:** The project owner shall concurrently send copies of all correspondence (transmittals and reports) to the State Historic Preservation Officer and the CPM.~~

CUL-9 If a federal permit triggers Section 106 Compliance, the project owner shall ensure that a copy of the permit and copies of correspondence from the federal agency to the project owner are provided to the CPM.

Verification: Within two weeks of permitting by a federal agency, copies of the permit shall be provided to the CPM. Within two weeks of the project owner receiving correspondence from the federal agency, the project owner shall provide copies of the correspondence to the CPM.

GENERAL CONDITIONS (COM-8)

Supplemental Testimony of
Alvin Greenberg, Ph.D. and Rick Tyler

The applicant has proposed a significant change to **COM-8**, the proposed requirement to provide a site security plan during both construction and operations phases. Staff believes that only in this specific case, an exception can be made and staff can agree to the applicant's proposal because, as the applicant states in their testimony[1], SMUD has unique experience in infrastructure security as the owner and operator of the Rancho Seco Nuclear Power Plant. Security for a nuclear power plant is under the jurisdiction of the Nuclear Regulatory Commission (NRC) and is more extensive and of a much higher level than would be required for a gas-fired power plant. Given the applicant's extensive experience in security, staff feels that the revision of **COM-8** from a "specification standard" to a "performance standard" is warranted for this site and for this applicant only. No precedent is being set for other power plant sites or applicants. Furthermore, staff strongly believes that the CEC must retain jurisdiction and not abdicate its responsibility to ensure compliance. Therefore, staff recommends maintaining the requirement for SMUD to submit the security plan for review and approval. Finally, it is understood by staff that only qualified CEC personnel with proper training and security clearance as determined by the CEC would have access to the plan and have the authority to review and approve that plan. Staff agrees that in order to maintain security, this review and approval of the plan would occur at the project site.

[1] Pre-hearing filing, testimony of Jim Shetler, Assistant General Manager, SMUD.

General Conditions

COM-8, Construction and Operation Security Plan

Thirty (30) days prior to commencing construction, a site-specific Security Plan for the construction phase shall be developed and maintained at the project site. At least ~~60~~sixty (60) days prior to the initial receipt of hazardous materials on-site, a site-specific Security Plan and Vulnerability Assessment for the operational phase shall be developed and maintained at the project site. The project owner shall notify the CPM in writing that the Plan is available for review and approval at the project site. Only Energy Commission personnel who have proper training and proper security clearance, as determined by the Energy Commission, after consultation with the project owner, shall review and approve the plan.

~~Construction Security Plan~~

~~The Construction Security Plan must address:~~

~~1. site fencing enclosing the construction area;~~

~~2. use of security guards;~~

~~3. check-in procedure or tag system for construction personnel and visitors;~~

~~4. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency; and~~

~~5. evacuation procedures.~~

~~Operation Security Plan~~

~~The Operations Security Plan must address:~~

~~1. permanent site fencing and security gate;~~

~~2. use of security guards;~~

~~3. security alarm for critical structures;~~

~~4. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency;~~

~~5. evacuation procedures;~~

~~6. perimeter breach detectors and on-site motion detectors;~~

~~7. video or still camera monitoring system;~~

~~8. fire alarm monitoring system;~~

~~9. site personnel background checks; and~~

~~10. site access for vendors and requirements for hazardous materials vendors to conduct personnel background security checks.~~

~~In addition, the project owner shall prepare a Vulnerability Assessment and implement site security measures addressing hazardous materials storage and transportation consistent with U.S. EPA and U.S. Department of Justice guidelines.~~

~~The CPM may authorize modifications to these measures, or may require additional measures depending on circumstances unique to the facility, and in response to industry-related security concerns.~~

Geology, Mineral Resources, and Paleontology (Paleontological Resources)

PAL-1 The project owner shall provide the CPM with the résumé and qualifications of its Paleontological Resource Specialist (PRS) for review and approval. If the approved PRS is replaced prior to completion of project mitigation and submittal of the Paleontological Resources Report, the project owner shall obtain CPM approval of the replacement PRS. The project owner shall submit to the CPM to keep on file, résumés of the qualified Paleontological Resource Monitors (PRMs). If a PRM is replaced, the résumé of the replacement PRM shall also be provided to the CPM.

The PRS résumé shall include the names and phone numbers of references. The résumé shall also demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the required paleontological resource tasks.

As determined by the CPM, the PRS shall meet the minimum qualifications for a vertebrate paleontologist as described in the Society of Vertebrate Paleontologists (SVP) guidelines of 1995. The experience of the PRS shall include the following:

1. institutional affiliations or appropriate credentials and college degree;
2. ability to recognize and collect fossils in the field;
3. local geological and biostratigraphic expertise;
4. proficiency in identifying vertebrate and invertebrate fossils; and
5. at least three years of paleontological resource mitigation and field experience in California, and at least one year of experience leading paleontological resource mitigation and field activities.

The project owner shall ensure that the PRS obtains qualified PRMs to monitor as he or she deems necessary on the project. PRMs shall have the equivalent of the following qualifications:

1. BS or BA degree in geology or paleontology and one year experience monitoring in California; or
2. AS or AA in geology, paleontology or biology and four years experience monitoring in California; or

3. Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in California.

Verification: (1) At least ~~60~~ 30 days prior to the start of ground disturbance, the project owner shall submit a résumé and statement of availability of its designated PRS for on-site work. No ground disturbance shall occur prior to CPM approval of the PRS unless specifically approved by the CPM.

(2) At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with résumés naming anticipated monitors for the project and stating that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the condition. If additional monitors are obtained during the project, the PRS shall provide additional letters and résumés to the CPM. The letter shall be provided to the CPM no later than one week prior to the monitor beginning on-site duties.

(3) Prior to the termination or release of a PRS, the project owner shall submit the résumé of the proposed new PRS to the CPM for review and approval.

PAL-2 The project owner shall provide to the PRS and the CPM, for approval, maps and drawings showing the footprint of the power plant, construction laydown areas and all related facilities. Maps shall identify all areas of the project where ground disturbance is anticipated. If the PRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the PRS and CPM. The site grading plan and the plan and profile drawings for the utility lines would normally be acceptable for this purpose. The plan drawings should show the location, depth, and extent of all ground disturbances and can be at a scale of 1 inch = 40 feet to 1 inch = 100 feet range. If the footprint of the power plant or linear facility changes, the project owner shall provide maps and drawings reflecting these changes to the PRS and CPM.

If construction of the project will proceed in phases, maps and drawings may be submitted prior to the start of each phase. A letter identifying the proposed schedule of each project phase shall be provided to the PRS and CPM. Prior to work commencing on affected phases, the project owner shall notify the PRS and CPM of any construction phase scheduling changes.

At a minimum, the project owner shall ensure that the PRS or PRM consults weekly with the project superintendent or construction field manager to confirm area(s) to be worked during the next week, until ground disturbance is completed.

Verification: (1) At least 30 days prior to the start of ground disturbance, the project owner shall provide the maps and drawings to the PRS and CPM. No ground disturbance shall occur prior to CPM approval of the maps and drawings, unless specifically approved by the CPM.

(2) If there are changes to the footprint of the project, revised maps and drawings shall be provided to the PRS and CPM at least 15 days prior to the start of ground disturbance.

(3) If there are changes to the scheduling of the construction phases, the project owner shall submit a letter to the CPM within 5 days of identifying the changes.

PAL-3 The project owner shall ensure that the PRS prepares, and the project owner shall submit to the CPM for review and approval, a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) to identify general and specific measures to minimize potential impacts to significant paleontological resources. Approval of the PRMMP by the CPM shall occur prior to any ground disturbance. The PRMMP shall function as the formal guide for monitoring, collecting and sampling activities and may be modified with CPM approval. This document shall be used as a basis for discussion in the event that on-site decisions or changes are proposed. Copies of the PRMMP shall reside with the PRS, each monitor, the project owner's on-site manager, and the CPM. No ground disturbance shall occur prior to CPM approval of the PRMMP, unless specifically approved by the CPM.

The PRMMP shall be developed in accordance with the guidelines of the Society of Vertebrate Paleontology ~~Society of the Vertebrate Paleontologists~~ (SVP, 1995) and shall include, but not be limited to, the following:

1. Assurance that the performance and sequence of project-related tasks, such as any literature searches, pre-construction surveys, worker environmental training, fieldwork, flagging or staking; construction monitoring; mapping and data recovery; fossil preparation and collection; identification and inventory; preparation of final reports; and transmittal of materials for curation will be performed according to the PRMMP procedures;

2. Identification of the person(s) expected to assist with each of the tasks identified within the PRMMP and the Conditions of Certification;

3. A thorough discussion of the anticipated geologic units expected to be encountered, the location and depth of the units relative to the project when known, and the known sensitivity of those units based on the occurrence of fossils either in that unit or in correlative units;

~~4. An explanation of why, how, and how much sampling is expected to take place and in what units. Include descriptions of different sampling procedures that shall be used for fine-grained and coarse-grained units;~~

4~~5~~. A discussion of the locations where the monitoring of project construction activities is deemed necessary, and a proposed plan for the monitoring and sampling;

5~~6~~. A discussion of the procedures to be followed in the event of a significant fossil discovery, halting construction, resuming construction, and how notifications will be performed;

6~~7~~. A discussion of equipment and supplies necessary for collection of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;

7~~8~~. Procedures for inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meets the Society of Vertebrate Paleontologists standards and requirements for the curation of paleontological resources;

8~~9~~. Identification of the institution that has agreed to receive any data and fossil materials collected, requirements or specifications for materials delivered for curation and how they will be met, and the name and phone number of the contact person at the institution; and

9~~10~~. A copy of the paleontological Conditions of Certification.

Verification: At least 30 days prior to ground disturbance, the project owner shall provide a copy of the PRMMP to the CPM. The PRMMP shall include an affidavit of authorship by the PRS, and acceptance of the PRMMP by the project owner evidenced by a signature.

PAL-4 Prior to ground disturbance and for the duration of construction, the project owner and the PRS shall prepare and conduct weekly CPM-approved training for all project managers, construction supervisors and workers who are involved with or operate ground disturbing equipment or tools. Workers shall not excavate in sensitive units prior to receiving CPM-approved worker training. Worker training shall consist of an initial in-person PRS-directed training during the project kick-off for those mentioned above. Following initial training, a CPM-approved video or in-person training may be used for new employees. The training program may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern. No ground disturbance shall occur prior to CPM approval of the WEAP, unless specifically approved by the CPM.

The Worker Environmental Awareness Program (WEAP) shall address the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training shall include:

1. A discussion of applicable laws and penalties under the law;

2. Good quality photographs or physical examples of vertebrate fossils shall be provided for project sites containing units of high paleontologic sensitivity;

3. Information that the PRS or PRM has the authority to halt or redirect construction in the event of a discovery or unanticipated impact to a paleontological resource;

4. Instruction that employees are to halt or redirect work in the vicinity of a find and to contact their supervisor and the PRS or PRM;

5. An informational brochure that identifies reporting procedures in the event of a discovery;

6. A certification of completion of WEAP form signed by each worker indicating that they have received the training; and

7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

Verification: (1) At least 30 days prior to ground disturbance, the project owner shall submit the proposed WEAP including the brochure with the set of reporting procedures the workers are to follow.

(2) At least 30 days prior to ground disturbance, the project owner shall submit the script and final video to the CPM for approval if the project owner is planning on using a video for interim training.

(3) If the owner requests an alternate paleontological trainer, the resume and qualifications of the trainer shall be submitted to the CPM for review and approval prior to installation of an alternate trainer. Alternate trainers shall not conduct training prior to CPM authorization.

(4) In the Monthly Compliance Report (MCR) the project owner shall provide copies of the WEAP Certification of Completion forms with the names or those trained and the trainer or type of training (in-person or video) offered that month. The Monthly Compliance Report shall also include a running total of all persons who have completed the training to date.

PAL-5 The project owner shall ensure that the PRS and PRM(s) monitor consistent with the PRMMP all construction-related grading, excavation, trenching, and augering in areas where potentially fossil-bearing materials have been identified, both at the site and along any constructed linear facilities associated with the project. In the event that the PRS determines full time monitoring is not necessary in locations that were identified as potentially fossil-bearing in the PRMMP, the project owner shall notify and seek the concurrence of the CPM.

The project owner shall ensure that the PRS and PRM(s) have the authority to halt or redirect construction if paleontological resources are encountered.

The project owner shall ensure that there is no interference with monitoring activities unless directed by the PRS. Monitoring activities shall be conducted as follows:

1. Any change of monitoring different from the accepted schedule presented in the PRMMP shall be proposed in a letter or email from the PRS and the project owner to the CPM prior to the change in monitoring. The letter or email shall include justification for the change in monitoring and submitted to the CPM for review and approval.

2. The project owner shall ensure that the PRM(s) keeps a daily log of monitoring of paleontological resource activities. The PRS may informally discuss paleontological resource monitoring and mitigation activities with the CPM at any time.

3. The project owner shall ensure that the PRS ~~immediately~~ notifies the CPM within 24 hours of the occurrence of any incidents of non-compliance with any paleontological resources conditions of certification. The PRS shall recommend corrective action to resolve the issues or achieve compliance with the Conditions of Certification.

4. ~~For any significant paleontological resources encountered, either~~ Either the project owner or the PRS shall notify the CPM ~~immediately~~ within 24 hours of a significant find (~~no later than the following morning after the find,~~ or Monday morning in the case of a weekend) when there has been a significant find or a ~~of any~~ halt of construction activities due to the discovery of fossil materials.

The project owner shall ensure that the PRS prepares a summary of the monitoring and other paleontological activities that will be placed in the Monthly Compliance Reports. The summary will include the name(s) of PRS or PRM(s) active during the month, general descriptions of training and monitored construction activities and general locations of excavations, grading, etc. A section of the report will include the geologic units or subunits encountered; descriptions of sampling within each unit; and a list of identified fossils. A final section of the report will address any issues or concerns about the project relating to paleontologic monitoring including any incidents of non-compliance and any changes to the monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the project shall include an explanation in the summary as to why monitoring was not conducted.

Verification: The project owner shall ensure that the PRS submits the summary of monitoring and paleontological activities in the MCR. When feasible, the CPM shall be notified 10 days in advance of any proposed changes in monitoring different from the plan identified in the PRMMP. If there is an unforeseen change in monitoring, the notice shall be given as soon as possible prior to implementation of the change.

[No changes to PAL-6.]

PAL-7 The project owner shall ensure preparation of a Paleontological Resources Report (PRR) by the designated PRS. The PRR shall be prepared following completion of the ground disturbing activities. The PRR shall include an analysis of the collected fossil materials and related information and submitted to the CPM for review and approval.

The report shall include, but is not limited to, a description and inventory of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the PRS that project impacts to paleontological resources have been mitigated below the level of significance.

Verification: Within 90 days after completion of ground disturbing activities, including landscaping, the project owner shall submit the Paleontological Resources Report under confidential cover to the CPM.

HAZARDOUS MATERIALS MANAGEMENT

Supplemental Testimony of Alvin J. Greenberg, Ph.D. and Rick Tyler

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Staff agrees to the following changes as proposed by the applicant, modified by staff, and then agreed to by the applicant. **HAZ-1** is clarified so that the intent of this COC is clear in that it allows the applicant to use and store different brands and quantities of paint, paint thinners, and cleaning solutions without obtaining approval from the CPM. Staff finds that this clarification is consistent with its previous testimony that small quantities of certain hazardous materials do not pose a risk of off-site consequences. **HAZ-1** is also revised to remove the requirement for approval from the CUPA to modify the list of hazardous materials used and stored on-site. Removal of this approval is consistent with H&S Code §25510 which required only notification to the CUPA whenever a substantial change in the use or storage of hazardous material occurs. The requirement to obtain approval from the CPM remains.

HAZ-2 is revised to reflect the reality that the U.S. EPA often takes months to comment on an RMP and the applicant wishes to provide the most recent version to the CPM and not delay the construction and commissioning of the power plant because of a delay by the EPA. Staff agrees that this request is reasonable. **HAZ-3** remains unchanged. **HAZ-4** is revised to include more precise wording that clarifies the intent of staff that the secondary containment be capable of holding 125% of the tank volume or the tank volume plus rainfall. **HAZ-5** remains unchanged. The change to **HAZ-6** is merely better language. **HAZ-7** remains unchanged.

The changes **to HAZ-8** reflect an agreement reached between staff and the applicant during open discussions at the pre-hearing conference where intervenors participated. Staff agrees with the revisions because this approach offers equivalent safety to that which staff first proposed. There are many ways to ensure that the risk of transporting hazardous materials in excess of 1,000 gallons is reduced to a level of insignificance. Staff's original proposal for a "lead car" is but one method. The applicant proposed conditions which staff had previously recommended for two different sites, the Inland Empire Energy Center and the East Altamont Energy Center, the latter being included in the PMPD recently issued. Staff's focus in the CPP siting case is the safety of school children attending the Arcohe School located along the transportation route, specifically transport during fog conditions or when children are present outside going to and from school, during outdoor physical education, recess, or after-school athletic events. Traffic is often congested during the morning and afternoon "school commute" hours and the presence of a large tanker truck should be avoided. Children playing outside are not protected by a building in the event of an accident and thus those hours should be avoided as well. The project owner will be required to coordinate with the school regarding the times when students may be traveling the transportation route or when children are outdoors. Staff finds that avoiding transport during periods of fog or when children are present will result in an overall insignificant transportation risk.

Hazardous Materials

HAZ-1 The project owner shall not use any hazardous material not listed in Appendix B (AFC Table 8.12-3R), below, or in greater quantities than those identified by chemical name in Appendix B, below, unless reviewed ~~approved~~ in advance by the Sacramento County Environmental Management Department and approved by the CPM. This requirement does not apply to small quantities (less than a total of 25 gallons each) of paint, paint thinner, or cleaning solutions.

Verification: The project owner shall provide to the Compliance Project Manager (CPM), in the Annual Compliance Report, a list of hazardous materials contained at the facility.

HAZ-2 The project owner shall concurrently provide a Business Plan and a Risk Management Plan (RMP) to the Certified Unified Program Authority - CUPA (Sacramento County Environmental Management Department) for review and to the CPM for review at the time the RMP is first submitted to the U.S. Environmental Protection Agency (EPA). After receiving comments from the CUPA, the EPA, and the CPM, the project owner shall reflect all recommendations in the final documents. Copies of the final Business Plan and RMP shall then be provided to the CUPA and EPA for information and to the CPM for approval.

Verification: At least 60 days prior to receiving any hazardous material on the site, the project owner shall provide a copy of a final Business Plan to the CPM for approval. At least 30~~60~~ days prior to delivery of aqueous ammonia to the site, the project owner shall provide ~~the final~~ a copy of the latest version of the RMP that was submitted to the EPA, to the Sacramento County Environmental Management Department for information and to the CPM for approval.

HAZ-3 The FSA version is acceptable to both parties.

HAZ-4 The aqueous ammonia storage facility shall be designed to either the ASME Pressure Vessel Code and ANSI K61.6 or to API 620. In either case, the storage tank shall be protected by a secondary containment basin capable of holding either 125% of the storage volume or the tank volume plus the volume associated with 24 hours of rain assuming a ~~the~~ 25-year storm. The final design drawings and specifications for the ammonia storage tank and secondary containment basins shall be submitted to the CPM.

Verification: At least 60 days prior to delivery of aqueous ammonia to the facility, the project owner shall submit final design drawings and specifications for the ammonia storage tank and secondary containment basin to the CPM for review and approval.

HAZ-5 The FSA version is acceptable to both parties.

HAZ-6 The project owner shall require that the gas pipeline undergo a complete design review and detailed inspection 30 years after initial startup and every 5 years thereafter.

Verification: At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall provide an outline of the plan to accomplish a full and comprehensive pipeline design review to the ~~CMP~~ CPM for review and approval. The full and complete plan shall be ~~amended, as appropriate, and~~ prepared and submitted to the CPM for review and approval, not later than one year before the plan is implemented by the project owner.

HAZ-7 After any significant seismic event in the area where surface rupture occurs within one mile of the pipeline, the gas pipeline shall be inspected by the project owner.

Verification: At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall provide a detailed plan to accomplish a full and comprehensive pipeline inspection in the event of a significant seismic event where surface rupture occurs within one mile of the pipeline to the ~~CMP~~ CPM for review and approval. This plan shall be amended, as appropriate, and submitted to the CPM for review and approval, at least every five years.

~~**HAZ-8** All hazardous material tanker trucks transporting any hazardous material solution in an amount equal to or greater than 1000 gallons shall be escorted from State Route 99 or Interstate 5 to the facility by a lead vehicle equipped with fog lights. Both vehicles shall also be equipped with radios to provide communication between the lead vehicle and the tanker truck. Both vehicles shall have their headlights on at all times when traversing the route.~~

~~**Verification:** At least 30 days prior to the initial delivery of any hazardous material solution in an amount equal to or greater than 1000 gallons, the project owner shall certify by letter to the CPM that the required hazardous material transportation escort will be implemented.~~

HAZ-8 The project owner shall direct all vendors delivering hazardous materials in quantities greater than 1,000 gallons to the site during the months of November through April to verify that fog conditions do not exist along state roads used for the delivery by calling the CALTRANS Highway Information Network prior to commencing delivery. If fog conditions exist, then delivery of that hazardous material shall be postponed until such time that the fog conditions have abated or the delivery vehicle is escorted from State Route 99 or Interstate 5 to the facility by a lead vehicle equipped with fog lights. In the event that a lead vehicle is used, both vehicles shall be equipped with radios to provide communication between the lead vehicle and the tanker truck and both vehicles shall have their headlights on at all times when traversing the route. The project owner shall also direct all vendors delivering

any hazardous materials in quantities greater than 1,000 gallons not to deliver during the time in the mornings and afternoons when children are going to and from Arcohe School located along the transportation route or when children are present outside for physical education, recess, or outdoor after-school events. The project owner shall coordinate with the school regarding the times when students may be traveling the transportation route or when children are outdoors.

Verification: At least sixty (60) days prior to receipt of any hazardous material in quantities greater than 1,000 gallons on-site, the project owner shall submit to the CPM, a copy of the letter to be mailed to the vendors. The letter shall state the required policy for verification of road conditions or lead vehicle as appropriate, and identify the hours that delivery of hazardous materials may and may not take place.

Noise and Vibration

NOISE-6 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the hourly median noise level (L_{50}) produced by steady state operation of the project will not exceed ~~an~~ the hourly median (L50)~~average~~ noise level of ~~more than~~ the following values~~, measured at any residence~~.

~~For the power plant operation: 39 dBA~~ At the relocated residence identified as R1: 42 dBA

At the existing residence identified as R2: 39 dBA

~~For the Winters gas compressor:~~ At the nearest existing residence to the Winters gas compressor: 37 dBA

~~For~~ At the nearest existing residence to the Valve Station #190 gas compressor: 39 dBA

No new pure tone components may be introduced at the nearest existing residences (relocated in the case of R1). No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints.

A. Within 30 days of the Phase 1 project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at Sites R1 and R2. Within ~~30~~ 45 days[1] of the Phase 2 project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at Sites R1, R2, M2, and M4. The noise surveys shall also include short-term measurement of one-third octave band sound pressure levels at each of the above locations to ensure that no new pure-tone noise components have been introduced.

B. If the results from the noise survey indicate that the noise level due to the steady state plant operations exceeds the noise standard listed above ~~for any given hour~~ during the 25-hour period, mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

C. If the results from the noise survey indicates that the steady state plant operations result in pure tones at R1 (relocated), R2, M2 or M4 ~~are present~~, mitigation measures shall be implemented to eliminate the pure tones.

[1] A longer period is requested for Phase 2 due to the number of monitoring locations and the long distances between those locations.

The measurement of power plant noise for the purposes of demonstrating compliance with this Condition of Certification may alternatively be made at a location, closer to the plant (e.g., 400 feet from the plant or compressor station boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the nearest residence. However, notwithstanding the use of this alternative method for determining the noise level, the character of the plant noise shall be evaluated at the nearest residence to determine the presence of pure tones or other dominant sources of plant noise.

Verification: Within ~~30~~ 45 days after completing the community noise survey required for Phase 1, the project owner shall submit a summary report of the survey to the Sacramento County Planning Department and to the CPM. Within 45 days after completing the community noise survey required for Phase 2, the project owner shall submit a summary report of the survey to the Sacramento County, Yolo County, and City of Elk Grove planning departments, and to the CPM. Included in the post-construction survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. Within 30 days of completion of installation of these measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

NOISE-9 Vibration due to pile driving for site investigations or project construction shall be limited to a peak particle velocity of 0.2 in/sec at the nearest sensitive receptor.

A. Upon commencement of pile driving, if R1 has not yet been relocated and is occupied, the project owner will conduct ~~continuous~~ vibration monitoring at R1. ~~the nearest residential receptor~~ If the piles closest to R1 are not driven first, the vibration monitoring can be conducted at an alternate location. The distance from the alternate monitoring location to the driven pile shall be the same or shorter than the distance from R1 to the proposed closest pile. ~~, and will continue the monitoring until the pile nearest that residence is installed.~~

B. If vibration measurements indicate at any time that the pile driving vibration at any sensitive receptor has exceeded a peak particle velocity of 0.2 in/sec, the project owner shall notify the CPM immediately, and shall cease pile driving until a mitigation plan is developed and implemented to achieve compliance.

Verification: Within 30 days after completing the vibration measurements, the project owner shall submit a summary report of the measurements to the Sacramento County Planning and Community Development Department and to the CPM. The report shall include a description of any mitigation measures that were required to achieve compliance with this Condition.

NOISE-10 Prior to operation of Phase 1, the operator shall ensure that the dwelling at receiver R1 is relocated to a site where the cumulative hourly average noise level due to plant operations and ambient noise will not exceed 42 dBA.

A. Within 30 days of the Phase 1 project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at Receiver R1. Within 30 days of the Phase 2 project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a subsequent 25-hour community noise survey at Site R1. The noise surveys shall include short-term measurement of one-third octave band sound pressure levels at the above location to ensure that no new pure-tone noise components have been introduced.

B. If the results from the noise survey indicate that the noise level due to the plant operations exceeds the noise standard listed above for any given hour during the 25-hour period, mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

C. If the results from the noise survey indicates that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

Verification: Prior to operation of Phase 1, the project owner shall transmit to the CPM a statement, signed by the project manager, stating that the mobile home has been relocated.

Within 30 days after completing the noise survey, the project owner shall submit a summary report of the survey to the Sacramento County Planning Department and to the CPM. Included in the post-construction survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limit, and a schedule, subject to CPM approval, for implementing these measures. Within 30 days of completion of installation of these measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

Public Health

Public Health-1 The project owner shall develop and implement a ~~Cooling Water Management Plan~~ Biocide Use and Monitoring program to ensure that the potential for bacterial growth in cooling water is kept to a~~n absolute~~ minimum. ~~The Plan shall include weekly monitoring of biocide and chemical biofilm prevention agents, periodic maintenance of the cooling water system to remove bio-film buildup, and testing to determine the concentrations of Legionella bacteria in the cooling water.~~ The Biocide Use and Monitoring program shall incorporate, as applicable, but not be limited to, the Best Practices and Recommendations for Minimization of Risks Associated with Legionella as outlined in the Cooling Tower Technology Institute February 2000 publication titled Legioellosis, Guideline: Best Practices for Control of Legionella. The Biocide Use and Monitoring Program shall specifically address full- and part-load plant operation, and short and long-term shutdowns.

Verification: At least 60 days prior to the commencement of cooling tower operations, the ~~Cooling Water Management Plan~~ Biocide Use and Monitoring program shall be provided to the CPM for review and approval.

Traffic and Transportation

TRANS-4 During construction of the power plant and all related facilities, the project shall develop a parking and staging plan for all phases of project construction to enforce a policy that all project-related parking occurs on-site or in designated off-site parking areas.

Verification: At least ~~60~~ 45 days prior to start of site mobilization, the project owner shall submit the plan to the (City and/or County) for review and comment, and to the CPM for review and approval.

TRANS-7 Prior to start of construction of Phase 1 and 2, the project owner shall also notify the City of Elk Grove, County of Sacramento, and Caltrans about the schedule for project construction. The purpose of this notification is to postpone any planned roadway resurfacing and/or improvement projects until after the project construction has taken place and to coordinate construction related activities associated with other projects.

Verification: ~~60~~ 45 days prior to the start of construction, the project owner shall provide to the CPM a copy of the transmittal notifying the City of Elk Grove, County of Sacramento, and Caltrans of the construction schedule.

TRANS-5 The project owner shall consult with Caltrans, Sacramento and Yolo counties, and the City of Elk Grove and prepare and submit to the CPM for approval, a construction traffic control plan (TCP) and implementation program (TCP). Staff believes that all of the activities identified by Caltrans in their September 17, 2002 and supporting letters are appropriate, and should be implemented during the construction and operation of the CPP. The TCP should address the following issues:

- Timing of heavy equipment and building materials deliveries;
- Redirecting construction traffic with a flagperson;
- Signing, lighting, and traffic control device placement if required;
- Need for turning restrictions;
- Need for construction work hours and arrival/departure times outside of peak traffic periods, local school bus travel times on SR 104/Twin Cities Road and Clay East Road, and the intervals that children would be walking to and from bus stops;
- Ensure access for emergency vehicles to the project site;

- Temporary travel lane closure;
- Access to adjacent residential and commercial property during the construction of all linears;
- Installation of the gas pipeline, compressor and valve stations;
- Completion of the construction access road as early in the construction phase as possible. Restrict the use of Clay East Road to no more than 100-day shift workers per day until the access road is complete. Require all construction traffic (contractors and workforce personnel) to use Twin Cities Road and the access road to enter and exit the CPP site and laydown area.

Verification: At least ~~30~~ 45 days prior to site mobilization, the project owner shall provide to the CPM a copy of the TCP for review and approval.

VISIBLE PLUMES

Supplemental Testimony of Will Walters

The changes proposed by the Applicant to **PLUME-1** do not result in any changes to the modeled results or impacts findings and are therefore acceptable. Specifically, the 34 degree F range would appear to be consistent with later statement noting, "except as necessary to prevent damage to the cooling tower." There are only an average of 15 SDNRNF hours per year when the temperature is below 34 degrees F and plumes would be expected during most – if not all – of these hours, so any changes to the airflow below 34 degrees is inconsequential to the impact analysis. The airflow above 104 degrees is not of concern as no plumes would be expected at that high a temperature under any operating circumstances.

Visible Plumes

PLUME-1 The project owner shall ensure that the Cosumnes Power Plant cooling tower is designed and operated so that the plume frequency will not increase from the design as certified.

Verification: At least 30 days prior to ordering the cooling towers, the project owner shall provide to the CPM for review the final design specifications of the cooling tower related to plume formation. The project owner shall not order the cooling tower until notified by the CPM that the two design requirements ~~above~~ below have been satisfied:

The cooling tower shall be designed ~~and operated~~ so that the exhaust air flow rate per heat rejection rate (1) will be not less than 21.0 kilograms per second per megawatt when the ambient temperatures are greater than 34 degrees F and at or less than 61 degrees F; and (2) will be not less than 19.0 kilograms per second per megawatt when the ambient temperatures are more than 61 degrees F but less than 104 degrees F.

The project owner shall provide a written certification in each Annual Compliance Report~~, to include cooling tower operation recording data, to demonstrate~~ that the cooling towers have consistently been operated within the above specified design parameters, except as necessary to prevent damage to the cooling tower. If determined to be necessary to ensure operational compliance, based on legitimate complaints received or other physical evidence of potential non-compliant operation, the project owner shall monitor the cooling tower operating parameters in a manner and for a period as specified by the CPM. For each period that the cooling tower operation monitoring is required, the project owner shall provide to the CPM the cooling tower operating data within 30 days of the end of the monitoring period. The project owner shall include with this operating data an analysis of compliance and shall provide proposed remedial actions if compliance cannot be demonstrated.

Visual Resources

VIS-1 The project owner shall require the following as a condition of contract with its contractors to construct the gas pipeline:

~~All locations where activities related to gas pipeline construction will occur for longer than 60 days, including~~ ~~If visible from nearby residences and roads,~~ aboveground facility construction sites, ~~and~~ staging areas, and material and equipment storage areas, ~~for gas pipeline construction~~ shall be visually screened with temporary screening fencing if they are visible within ½-mile from a residence or public road. ~~Fencing~~ Screening shall ~~will~~ be of an appropriate design and color for each specific location, as determined by the CPM.

The project owner shall submit to the CPM for review and approval and to Sacramento County for review and comment a specific screening and restoration plan whose proper implementation will satisfy these requirements. The plan shall specify each location to be screened and the type, height, color, and opacity of the proposed screening material, and the timing for the screening installation.

All evidence of construction activities, including ground disturbance due to staging and storage areas, shall be removed and all disturbed areas shall be remediated to an original or improved condition upon completion of construction including the replacement of any vegetation or paving removed during construction.

The project owner shall not begin construction of the gas pipeline or implement the screening and restoration plan until receiving written approval of the plan from the CPM.

Verification: At least 45~~90~~ days prior to construction of the gas pipeline, the project owner shall submit the plan to the CPM for review and approval and to Sacramento County for review and comment. The plan shall include a commitment to remove all evidence of construction activities and remediation of all disturbed areas within 90 days after completion of construction.

If the CPM notifies the project owner that any revisions of the plan are needed, the project owner shall submit to the CPM a revised plan within 30 days of receiving such notification.

~~The project owner shall install screening at each gas pipeline construction site prior to construction activities at that site.~~

~~The project owner shall install screening at each gas pipeline staging area and material and equipment storage area before the first use of that area.~~

The project owner shall notify the CPM within seven days after installing temporary screening at aboveground construction sites, staging areas, and material and equipment storage areas, that the screening it ~~it~~ is ready for inspection.

The project owner shall notify the CPM within seven days after completing the surface restoration that it is ready for inspection.

Surface Treatment of Project Structures and Buildings

VIS-2 ~~Prior to initial firing, t~~The project owner shall treat the surfaces of all project structures and buildings visible to the public such that their colors minimize visual intrusion and contrast by blending with the landscape; their surfaces do not create glare; and they are consistent with local laws, ordinances, regulations, and standards. The project owner shall submit for CPM review and approval and Sacramento County review and comment, a specific treatment plan whose proper implementation will satisfy these requirements. The treatment plan shall include:

a) Specification, and 11" x 17" color simulations at life size scale, of the treatment proposed for use on project structures, including structures treated during manufacture;

b) A list of each major project structure, building, tank, transmission line tower and/or pole, and fencing specifying the color(s) and finish proposed for each (colors must be identified by vendor brand or a universal designation);

c) Two sets of brochures and/or color chips for each proposed color;

d) Samples ~~at least 5" by 7"~~ of each proposed treatment and color on each material to which they would be applied that would be visible to the public;

e) A detailed schedule for completion of the treatment; and

f) A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated on site, until the project owner receives notification of approval of the treatment plan by the CPM.

Verification: ~~Before preparing the treatment plan, the project owner shall contact the CPM to arrange a meeting to discuss the requirements of the plan.~~

The project owner shall submit its proposed treatment plan at least 4590 days prior to specifying to the vendor the color for ordering the first structures that are color-treated during manufacture.
If a revision is required, the project owner shall provide the CPM with a revised plan within 30 days of receiving such notification.

Prior to the start of commercial operation, first turbine roll, the project owner shall notify the CPM that all buildings and structures are ready for inspection.
The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

Landscapeing and Screening

VIS-3 The project owner shall provide landscaping that is effective in screening the proposed project from views from nearby residences.

The project owner shall screen from view the aboveground gas pipeline interconnection and valve stations with landscaping or other aesthetically acceptable permanent screening material. The project owner shall submit a screening plan for these facilities to the CPM for review and approval.

The project owner shall install a 25-foot landscape setback along the entire length of the project plant site that fronts Clay East Road. The project owner shall submit a landscaping plan for this area to the CPM for review and approval and to Sacramento County for review and comment.

The project owner shall submit a landscaping plan for the SMUD property west of the power plant site to the CPM for review and approval and to Sacramento County for review and comment. The plan shall include:

a) 11"x17" color simulations of the proposed landscaping at 5 years and at 20 years as viewed from KOPs 2 and 3.

b) A landscaping plan(s) and map(s) drawn to scale showing the proposed location and species of plants.

c) The following are requirements for the area west of the project site:

c) 1.) Tree species that are used shall be native to the Central Valley, fast-growing, and the species expected to reach the greatest height at maturity for the site conditions.

d) 2.) No plantings shall be within 250 feet of any vernal pools or swales.

e) No trees or shrubs taller than 3 feet at maturity within 30 feet of the fenceline immediately west of the power plant site.

f) 3.) Plantings shall consist of informal groupings strategically placed to maximize screening of views from residences.

g) 4.) Tree spacing within groupings shall be designed to achieve as dense a screen as possible without inhibiting tree growth or height at maturity.

h) ~~5.)~~ Irrigation ~~shall be~~ designed and operated to avoid adverse impacts to wetlands.

i)~~h)~~A detailed list of plants to be used and expected times to maturity given their size and age at planting.

The project owner shall provide a program to install landscaping trees and/or shrubs at residences to screen views of the power plant. The program shall be open to landowners whose residences are within 1.5-mile of the power plant site, and shall be available during the period from the start of project mobilization until two years after the start of commercial operation. The residential landowner will be responsible for care and maintenance of the landscaping trees and/or shrubs once they are properly planted.

~~The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM.~~The CPM shall approve all landscaping plans and programs prior to implementation by the project owner. ~~However,~~ For the area west of the power plant site, the planting must be completed within one year (or other CPM-approved time frame) after the start of ~~project construction~~ site mobilization. For the 25-foot setback area that fronts Clay East Road, the landscaping must be completed within 90 days (or other CPM-approved time frame) after the start of commercial operation.

Verification: Before preparing the landscape screening plan, the project owner shall meet with the CPM to discuss the requirements of the plan.
Within 30 days after project certification and at least 60 days prior to installing the landscaping west of the site, at the interconnection station, and at the valve stations, the project owner shall submit the landscaping plan for that area to the CPM for review and approval.

Within 30 days after project certification, the project owner shall submit the proposed program to provide landscape screening at residences within 1.5 miles of the plant site to the CPM for review and approval.

~~Prior to the start of site mobilization and at least 90 days prior to installing the landscaping west of the site, the project owner shall submit the landscaping plan for that area to the CPM for review and approval.~~

At least 90 day ~~Prior~~ prior to the ~~completion of project construction~~start of commercial operation, the project owner shall submit the landscaping plan for the 25-foot setback fronting Clay East Road to the CPM for review and approval and to Sacramento County for review and comment.

If any ~~the CPM notifies the project owner that~~ revisions of the submittals are needed, ~~before the CPM will approve the submittal, within 30 days of receiving that notification,~~ the project owner shall prepare and submit to the CPM a revised submittal within 30 days of receiving such notification.

No later than 30 days after completion of construction of the aboveground gas pipeline interconnection and valve stations, the project owner shall notify the CPM that the screening for those facilities is installed and ready for inspection.

No later than one year after ~~the start of project construction~~site mobilization, the project owner shall notify the CPM that the landscaping for the area west of the power plant site is installed and ready for inspection.

Within one year after start of commercial operation, the project owner shall notify the CPM that the landscape setback has been installed and is ready for inspection.

In each Monthly Compliance Report during project construction and in the first two annual compliance reports after completion of project construction, the project owner shall include a description of the activities that have occurred in regard to the program to provide landscape screening at residences.

WASTE MANAGEMENT

Supplemental Testimony of Alvin J. Greenberg, Ph.D. and Michael Ringer

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Regarding radioactive releases from the Rancho Seco Nuclear Power Plant, the FSA states that "staff also agrees with the applicant that migration of hazardous waste and/or radioactive waste from the Rancho Seco Nuclear Power Plant to the proposed site and laydown areas has not occurred." Staff based its opinion on the results of the Annual Radiological Environmental Operating Report, January – December 2000 (SMUD 2002z), submitted to the Nuclear Regulatory Commission. The conclusion reached by SMUD was that "all positively detected results were well below the reporting levels" required by the NRC and exposures did not exceed regulatory limits. Table E-1 on page E-10 of the report lists the reporting levels for human exposure via water, inhalation, fish, and food products as established by the NRC. The regulatory limits are described in 10 CFR 20.1301 and allow a maximum public exposure of 100 mRem per year.

Since the printing of the FSA, staff has conducted additional assessment of the 2000 radiological report. Staff focused on off-site radiological sampling locations, particularly those located at the proposed site and laydown areas. Media measured include direct radiation, sediment, soil, fish, and algae. Because water was not present at all locations, not all media were sampled at each location. Most values were non-detect while those where radiation was detected, the levels were far below any regulatory or public health significance. These levels were also well below control (background) levels reported at locations up to 10 miles away (locations 57 and 58 found on Table B-1 and Figure B-4 of the report).

Staff therefore reiterates its position that radioactive materials have not spread to either the project site or laydown areas.

Reference

SMUD (Sacramento Municipal Utility District) 2002z. Data Response, Set 3D – Responses to Data Requests 188, 191, 201, 202, 204, 206, 207, 229, and 235. June 7, 2002. Docket date June 7, 2002